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TI - NONCONTACT DISPLACEMENT METER
IN - NISHIKAWA KIHACHIROKUWABARA YOSHIHARU
PA - MITUTOYO CORP
IC - G01B11/00 ; G01B11/30 ; G01C3/06 ; G02B6/00

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AB - PURPOSE: To measure displacement by a simple constitution by transmitting a light signal by plural optical fiber bundles which are arranged and bundled concentrically so that incidence end surfaces shift from the focusing image formation surface of spot light.

- CONSTITUTION: An optical cable 26 consists of two optical fiber bundles 27A and 27B which are bundled concentrically so as to transmit the light signal corresponding to the radial light quantity distribution gravity center position having its center on an optical axis as to an out-of-focus image formed with fine spot light 20. When an object 8 of measurement is displaced from a focusing plane in a Z direction, the fine spot light forms the out-of-focus image which is controlled by a ring-shaped mask on the incidence surface 26A of the cable 26. The cable 26, therefore, transmits the light signal corresponding to the radial light quantity distribution gravity center position having its center on the optical axis as to the out-of-focus image, thereby detecting the displacement plane where the displacement signal (d) outputted by a differential amplifier 30 is zero being a focusing plane.

I - G01C3/06 ; G01B11/00 ; G01B11/30 ; G02B6/00

none

none

none